1   <u>CLAIMS</u>

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3   1.   A method, including steps of

4   sending data between a client and a server at an address agreed by said

5   client and said server;

6   wherein said steps of sending data are responsive to a request or a response

7   between said client and said server; and

8   wherein said steps of sending data are asynchronous with regard to said

9   request or said response.

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11   2.   A method as in claim 1, wherein

12 said request or said response includes at least some control information;

13 and

14 said steps of sending data are responsive to said control information.

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16   3.   A method as in claim 1, wherein

17 said request or said response includes at least one memory address;

18 said steps of sending data are responsive to said memory address, wherein

19 said data is read from or written to a memory in response to said memory address.

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21   4.   A system including

22   a client and server;

1   a NUMA communication link coupled to said client and server;

2   a request from said client to server or a response from said server to client;

3   and

4   a data transfer between said client and server;

5   wherein said data transfer has a time that is decoupled from a time of said

6   request or response; and

7   wherein said data transfer has a location that is mutually agreed between

8   said client and server.

9

10   5.   A system, as in claim 4, also including a byte serial communication

11   link.

12   6.   A system as in claim 4, wherein

13   either said client or server performs processing of information in said data

14   transfer;

15   said processing is performed in an order convenient to both said client and

16   server; and

17   said order is decoupled from an order of said data transfer.

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19   7.   A system as in claim 4, wherein said data transfer is responsive to

20   control information in said request or response.

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1   8.   A system as in claim 4, wherein said data transfer is responsive to

2 said request or response.

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4   9.   A system as in claim 4, wherein said data transfer uses said NUMA

5 communication link.

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7   10.   A system as in claim 4, wherein said mutually agreed location is

8 responsive to control information in said request or response.

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10   11.   A system as in claim 4, wherein said request or response uses said

11 byte serial communication link.

12

13   12.   A system including

14   a server, said server having a memory including a client communication

15 region and a data transfer region;

16   a remote DMA communication link coupled to said data transfer region;

17   said client communication region including information regarding a data

18 transfer into or out of said data transfer region;

19   said data transfer being decoupled in time from said client request region.

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21   13.   A system as in claim 12, including a byte serial communication link

22 coupled to said client communication region.

14.   A system as in claim 12, including a processing element in said server coupled to said data transfer region, said processing element responsive to a request from a client or a response to a client.

15.   A system as in claim 12, including a processing element in said server coupled to said data transfer region, said processing element responsive to control information in said client communication region.

16.   A system as in claim 12, including a processing element in said server coupled to said data transfer region, said processing element using information in said data transfer region independently of said remote DMA communication link.

17.   A system as in claim 12, including a request from a client or a response to said client having information regarding a location within data transfer region.

18.   A system as in claim 12, wherein said client communication region stores a request from a client or a response to said client.

19.   A system as in claim 12, wherein said data transfer region stores a data transfer to or from a client.

1   20.   A system as in claim 12, wherein said remote DMA communication

2   link includes a NUMA communication link.

3

4   21   A method including

5   communicating file system requests and responses between a client and a

6   file server;

7   sending data between said client and said file server using a memory access

8   operation at an address agreed by said client and said file server, wherein said address is

9   responsive to information in said requests or said responses.

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11   22.   A method as in claim 21, wherein said memory access operation

12   includes a DMA operation.

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14   23.   A method as in claim 21, wherein said memory access operation

15   includes a remote DMA operation.

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17   24.   A method as in claim 21, wherein said client includes a database

18   server.

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20   25.   A method including

21   communicating database requests and responses between a client and a

22   database server;

1   sending data between said client and said database server using a memory

2   access operation at an address agreed by said client and said database server, wherein

3   said address is responsive to information in said requests or said responses.

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5   26.   A method including

6   communicating requests and responses between a client and a server;

7   sending data between said client and said server using a memory access

8   operation at an address agreed by said client and said server, wherein said address is

9   responsive to information in said requests or said responses.

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11   27.   A method as in claim 26, including

12   receiving said data at one of said client or at said server in a first order; and

13   processing said data at said one device in a second order unrelated to said

14   first order.

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